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10/589,303	08/11/2006	Takashi Kanai	F-9144	6060

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New York, NY 10168

EXAMINER	
BAYOU, AMENE SETEGNE	
ART UNIT	PAPER NUMBER
3746	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/589,303	KANAI ET AL.	
	Examiner	Art Unit	
	AMENE S. BAYOU	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08/11/06* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation "fluid dynamic bearing ",in the claims must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Saretzky (US patent number 3276678) or Yamashita (US patent number 6236129).

4. In re claim 1, Saretzky discloses a motor with hydrodynamic bearing including:

- An air blower ,in figures 1 and 2,comprising: a case body (10) having an air suction mouth (11) formed on at least one side surface thereof and an outlet (not shown) formed at a peripheral wall thereof ; a motor (having stator 20 and rotor 21) which is installed into the case body (10) , having a fluid dynamic bearing (column 2,lines 14-17) ; and an impeller (having blades 34) which is fixed to a rotation member (26,27) of the motor in order to locate at an outer circumferential part of the motor, suctioning air from the air suction mouth (11) by rotating and discharging from the outlet.

5. In re claim 1, Yamashita discloses a motor with hydrodynamic bearing including:

- An air blower (having impeller 8),in figure 1-3 comprising: a case body (1) having an air suction mouth (19) formed on at least one side surface thereof and an outlet (30) formed at a peripheral wall thereof ;a motor (having stator 3 and rotor 11) which is installed into the case body (1) , having a fluid dynamic bearing (13 and 17,in column 5,lines 8-30) ; and an impeller (8) which is fixed to a rotation member (11) of the motor in order to locate at an outer circumferential part of the motor (rotor 11 is the outer circumferential part of the motor), suctioning air from the air suction mouth (19) by rotating and discharging from the outlet (30).

6. In re claim 5, Saretzky discloses a motor with hydrodynamic bearing including:

- The motor is further comprised of a shaft (18), the rotation member (26,27) being rotatably supported by the shaft (18) and configured to rotate around the shaft (18) without contact between the shaft (18) and the rotation member (26,27),in figure 2 and column 2,lines 14-17.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 2,6,9,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saretzky in view of Yu et al. (US patent number 6299406).

9. In re claim 2, Saretzky discloses a motor with hydrodynamic bearing including:

- An air blower ,in figures 1 and 2,comprising: a case body (10) having an air suction mouth (11) formed on at least one side surface thereof and an outlet (not shown) formed at a peripheral wall thereof ; a motor (having stator 20 and rotor 21) which is installed into the case body (10) , having a fluid dynamic bearing (column 2,lines 14-17) ; and an impeller (having blades 34) which is fixed to a rotation member (26,27) of the motor in order to locate at an outer circumferential part of the motor, suctioning air from the air suction mouth (11) by rotating and discharging from the outlet, and means for blocking an extreme movement of the impeller to a thrust direction and preventing the impeller from hitting the case body (column 2,lines 55-70) . Saretzky, however fails to disclose an equivalent "means for blocking an extreme movement of the impeller" which functions in the same way as the applicant's disclosure : But, Yu et al disclose :

- Means (140) for blocking an extreme movement of the impeller (100) to a thrust direction, in figure 5 and column 3,lines 16-20 . This limitation meets the three-prong test per MPEP 2181 and thereby invokes 35 USC 112 6th paragraph. Yu et al disclose vent holes (66) which is considered to be an equivalent to applicant's "means for blocking an extreme movement of the impeller to a thrust direction" because it performs the same function in substantially the same way and produces substantially the same result as the corresponding element in applicant's specification. See MPEP 2183

10. It would have been obvious to one skilled in the art to modify the impeller axial movement blocking means of Saretzky by using pressure equalizing holes as taught by Yu et al in order to avoid extra parts and reduce the size of the fan.

11. In re claim 6, Saretzky in view of Yu et al as applied to claim 2 discloses the claimed invention:

Saretzky discloses:

- The motor is further comprised of a shaft (18), the rotation member (26,27) being rotatably supported by the shaft (18) and configured to rotate around the shaft (18) without contact between the shaft (18) and the rotation member (26,27),in figure 2 and column 2,lines 14-17.

12. In re claim 9, Saretzky in view of Yu et al discloses the claimed invention:

Yu et al disclose:

- The impeller (100) is comprised of an impeller body with a plurality of through-holes (140) extending between a first side of the impeller body through which an axis of rotation of the impeller extends and a second side of the impeller body through which an axis of rotation of the impeller extends, in figure 5. See claim 2 for obviousness.

13. In re claim 10, Saretzky in view of Yu et al discloses the claimed invention:

Yu et al disclose:

- Means (140) for equalizing a pressure on a first side and a second side of a body of the impeller and thereby blocking an extreme Impeller body (100) with a plurality of holes (140) that equalize a pressure on a first side and a second side of the impeller body, in figure 5 and column 3,lines 16-20 .This limitation meets the three-prong test per MPEP 2181 and thereby invokes 35 USC 112 6th paragraph. Yu et al disclose vent holes (140) which is considered to be an equivalent to applicant's "means for equalizing a pressure on a first side and a second side of a body of the impeller" because it performs the same function in substantially the same way and produces substantially the same result as the corresponding element in applicant's specification. See MPEP 2183.

14. Claims 3 ,4,7,8 are rejected under 35 U.S.C. 103(a) as being unpatentable over McMahan (US patent number 2171342) in view of Saretzky further in view of Yu et al.

15. In re claim 3 and 4 McMahan discloses a fan casing including:

- An air blower ,in figure 1, comprising: a case body (1) having an impeller storage room ;a motor (not labeled) which is installed into the case body (1) , and an impeller (6) which is fixed to a rotation member of the motor in order to locate at an outer circumferential part of the motor ,the impeller (6) having a disc shaped impeller body, an intake silence channel (2) including at least one silence room (7, column 1,lines 22-26), a discharge channel (clearly shown in figure 1) provided at the case body (1),discharging air which is sucked inside the impeller storage room to exterior portion by rotation of the impeller (6). McMahan, however fails to disclose the following limitation which is taught by Saretzky:
- A motor (having stator 20 and rotor 21) having a fluid dynamic bearing (column 2,lines 14-17). McMahan in view of Saretzky however fails to disclose the following limitation which is taught by Yu et al:
- Impeller body (100) with a plurality of holes (66) that equalize a pressure on a first side and a second side of the impeller body, in figure 5 and column 3,lines 16-20 .

16. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fan of McMahan by including a fluid dynamic bearing as taught by Saretzky in order to reduce the noise caused by mechanical bearings. Also it would have been obvious to one skilled in the art to modify the fan of McMahan and Saretzky by drilling holes in the impeller body as taught by including an inlet muffler as taught by Yu et al in order to axially center the impeller body in side the casing .

17. In re claim 4, McMahan in view of Saretzky further in view of Yu et al discloses the claimed invention:

McMahan discloses:

- An air blower ,in figure 1, comprising: a case body (1) having an impeller storage room ;a motor (not labeled) which is installed into the case body (1) , and an impeller (6) which is fixed to a rotation member of the motor in order to locate at an outer circumferential part of the motor ,the impeller (6) having a disc shaped impeller body, an intake silence channel (2) including at least one silence room (7, column 1,lines 22-26), a discharge channel (clearly shown in figure 1) provided at the case body (1),discharging air which is sucked inside the impeller storage room to exterior portion by rotation of the impeller (6).

Saretzky discloses:

- A motor (having stator 20 and rotor 21) having a fluid dynamic bearing (column 2, lines 14-17).

Yu et al disclose:

- Means (140) for equalizing a pressure on a first side and a second side of a body of the impeller and thereby blocking an extreme movement of the impeller (100) to a thrust direction and preventing the impeller from hitting the case body, in figure 5 and column 3,lines 16-20 .This limitation meets the three-prong test per MPEP 2181 and thereby invokes 35 USC 112 6th paragraph. See claim 10 above for detail.

18. In re claim 7 and 8 , McMahan in view of Saretzky further in view of Yu et al as applied to claim 3 and 4 respectively discloses the claimed invention:

Saretzky discloses:

- The motor is further comprised of a shaft (18), the rotation member (26,27) being rotatably supported by the shaft (18) and configured to rotate around the shaft (18) without contact between the shaft (18) and the rotation member (26,27),in figure 2 and column 2,lines 14-17.

19. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saretzky as applied to claim 1 or 5 in view of Sun et al (US patent number 6849978).

20. In re claim 11 and 12 Saretzky as applied to claim 1 or 5 discloses the claimed invention:

Saretzky discloses:

- The motor ,in figure 1 and 2 is further comprised of a base (12) fixed to the case body (10); a shaft (18) having a proximal end fixed to the base (12) and a distal end of the shaft extending from the base (12) ; a sleeve (26,27) arranged around an outer circumferential part of the shaft (18) with a minute space between the sleeve (26,27) and the shaft (18); a rotor (21) with an arrangement of magnets fixed to an outer circumferential part of the sleeve; a coil (25) attached to the base (12) so as to be positioned around an outer circumferential part of the rotor (21); a back yoke (33) attached to the rotation member (26,27) so as to

be positioned around an outer circumferential part of the coil (25 of 20); a concave part (28) which forms an upper part of the rotation member (26,27) , the concave part covering the shaft (18) and supporting the sleeve (26,27) , the rotor (21) and the back yoke (33); Saretzky,however fails to disclose the following limitation which is taught by Sun et al.:

- A first thrust magnet (3) fixed to the concave part; and a second thrust magnet (2) fixed to the distal end of the shaft (42) so as to face to the first thrust magnet (3) ,in figure 3.

21. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fan of Saretzky by including axial magnetic bearings as taught by Sun et al in order to support the rotor in the axial direction.

Response to Arguments

22. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

23. Applicant's argument to the objection of the drawings is not persuasive. Applicant argued that the specification mentions that there is a gap between the sleeve and the shaft. Although that is true, the specification does not specify that this gap is fluid or thin film bearing. The specification merely mentions that the motor comprises a fluid dynamic bearing.

Conclusion

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amene S. Bayou whose telephone number is 571-270-3214. The examiner can normally be reached on Monday-Thursday,9:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art Unit 3746